TECHN PRINT

TECHNO 180

IR convection reflow oven

User manual

Version 2.00

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1. Introduction

This manual is designed to help you get the most out of the IR convection reflow oven program in the shortest possible time. It is written for the new and experienced PC user in mind.

Who should read this manual
Anybody who want to use the Technoprint IR convection reflow oven or get an impression on how to use the oven.

How this manual is organised

The first section of the manual describes the unpacking and installation of the oven. Included is a describtion of the principles and specification of the oven.

The main section of the manual is build around questions a user might have concerning the computer program.

The figures

The figures in this manual were captured with the intention of providing the clearest possible tutorial for the program. The default screen positions and sizes were used in most cases. Because the oven program can be configered in many ways, do not be concerned if you detect minor differences between the figures in this manual and what you see on your own computer screen.

2. Setting up

Unpacking the Oven:
Carefully unpack the oven and safe the original package in case you need to ship the unit. (removal etc.)
Check first to ensure that the following items are packed with the oven:

- connection cables
- operating manual
- 1 thermocouple

Before starting the oven:
Operate the oven in a well ventilated room.
Keep the oven away from people who are not directly operating the unit.

Power source:
208/240 VAC, 1-phase.
It has to be connected to a well earthed outlet. Installation may only be done by a qualified electrical engineer.

3. Specifications

Introduction
The reflow oven **TECHNO 180** is developed for reflow soldering of SMT boards, hybrid boards or curing adhesives.

Transport system
The boards are transported through the oven on a conveyor consisting of high grade stanless steel spring wires with variable speed between 10 and 60 cm/min (4 and 24 Inch/min).

Heating system
The heating is by IR convection.

Cooling system
Bottom cooling fan at the offload section ensure cooling of your circuits before they leave the transport belt.

Control
All functions are controlled by a front panel or (optional) personal computer, which is easy to program.
The thermocouple allow you to connect a testcircuit to the computer, in order to read out a temperature profiles.

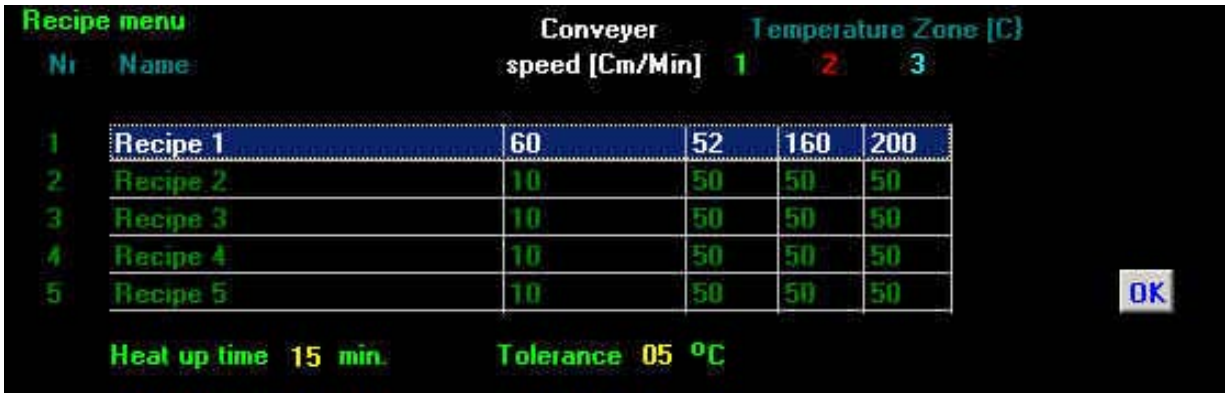
4. The Techno 180 computer program.

4.1 Starting the program

Make sure the oven is connected to a free serial port.
Then power on the system, the program will start automaticaly.
You will see a screen that looks like the screen shown below.

The program will now scan te serial ports for a connected oven, as long as the oven is not connected or powered on, a message apears on the screen indicating that it is searching for the oven.

As soon as the oven is detected the recipe menu will appear.

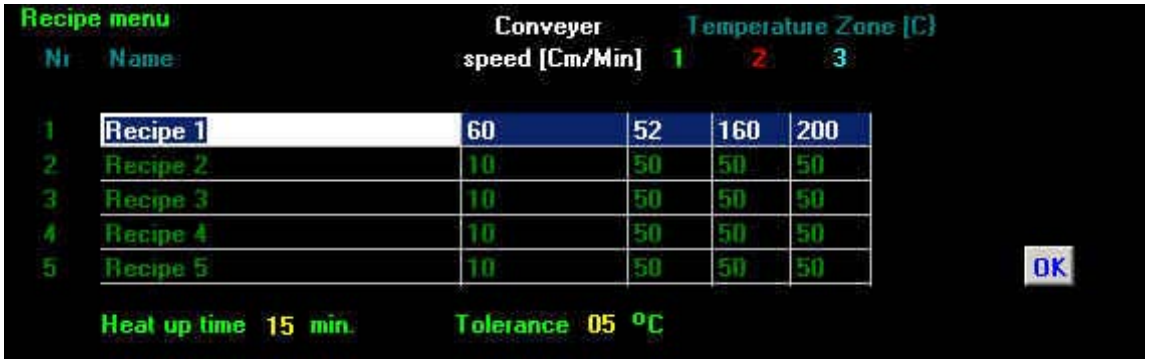


4.2 Selecting a recipe.

Select a recipe using the up and down arrow of your keyboard.
Press the OK button to enter the main menu.

4.3 Changing a recipe.

Select the recipe you would like to change. (You may store up to 32 recipies in the table)
When you have selected a recipe double click one of the fields with the left mouse button.



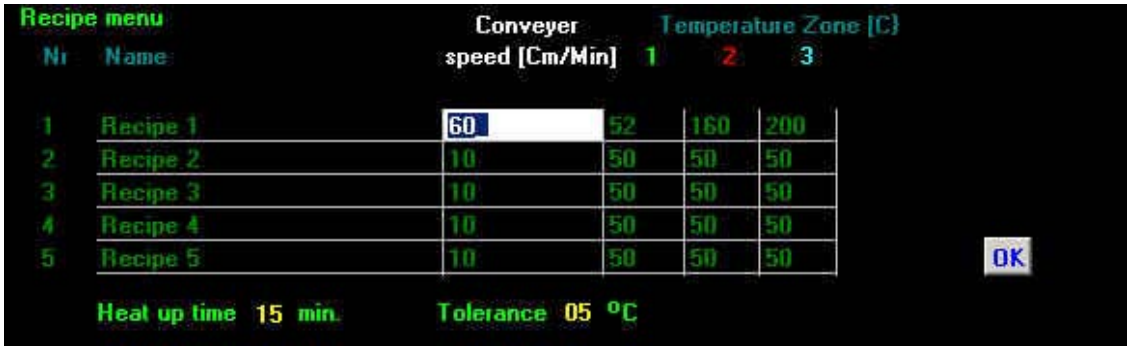
The selected field will be high lighted. You may use a TAB key to go to the next field.
You may use the up down arrow to go to the next recipe.

4.4 Changing the recipe name.

Double click with the left mouse button on the recipe name, then start typing a new name.
Press enter to accept the name.

4.5 Changing the Conveyer speed and temperature settings.

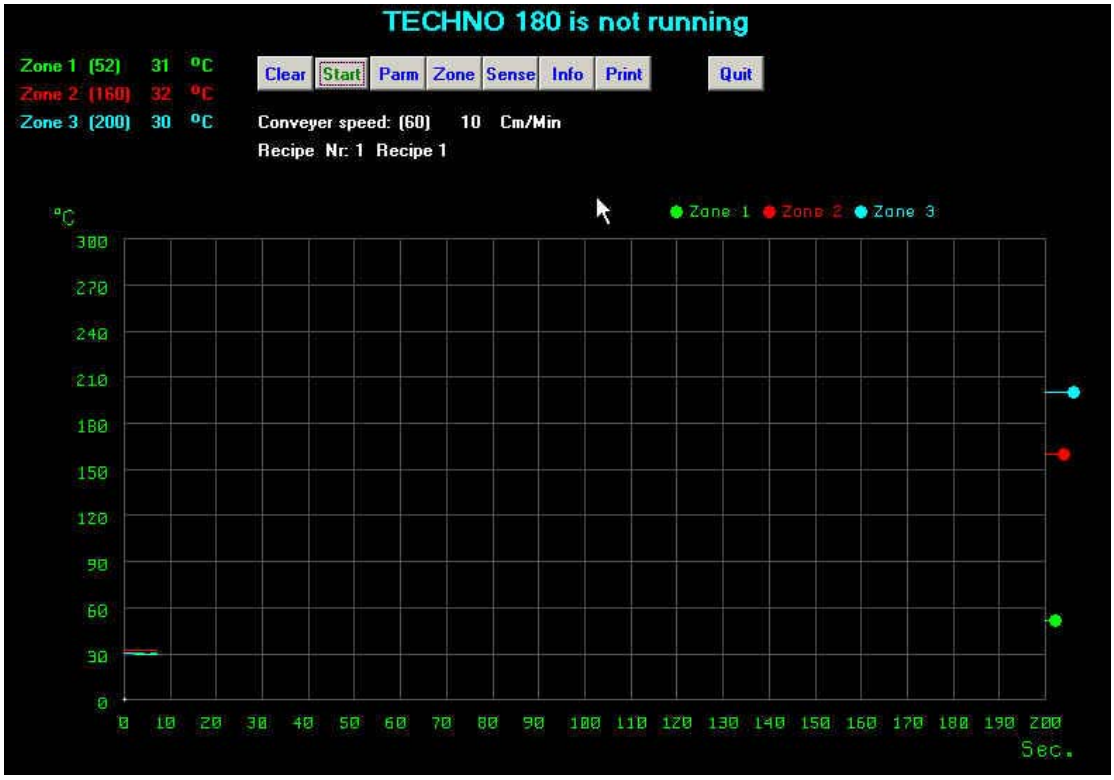
Select the conveyer speed or temperature field, by double clicking it.



You may now type a new value and press enter.

4.6 The main menu

After selecting a recipe you will enter automaticly the main menu.



Depending of the type of oven connected, you will see a number of temperature zones on the top left of the screen. The number between brackets is the requested temperature by the recipe. The other number is the actual temperature of the specific zone.

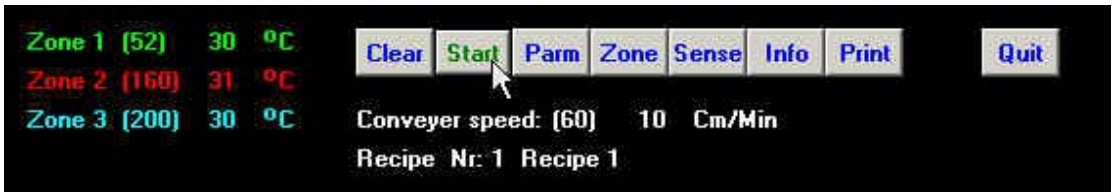
On the right side of the diagram, you will note colored balls, they indicate the requested temperature as well. The colored lines in the diagram indicate the current temperature of the zones. If the colored lines reach the right side of the diagram the will be shifted to the left.

The name of the recipe is displayed and the (requested) current speed of the conveyer.

4.7 The clear button

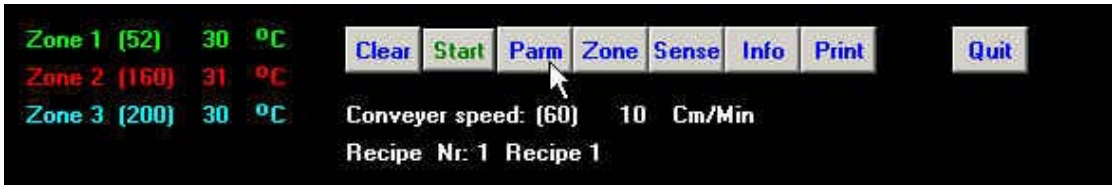
With the clear button you may clear the screen and the temperature measurement will start on the left side again.

4.8 The start button

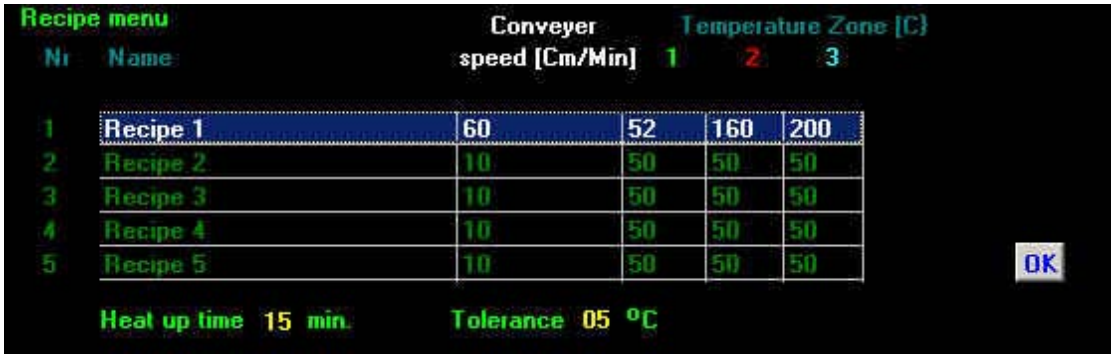


The start button runs the conveyer at the requested speed.

4.9 The Parm button



The parm button opens the recipe menu.



See for a description the previous chapter.

4.10 The Zone button

The zone button displays the temperature zone diagram, this is the diagram below.

Depending of the type of oven connected, you will see a number of temperature zones on the top left of the screen. The number between brackets is the requested temperature by the recipe. The other number is the actual temperature of the specific zone.

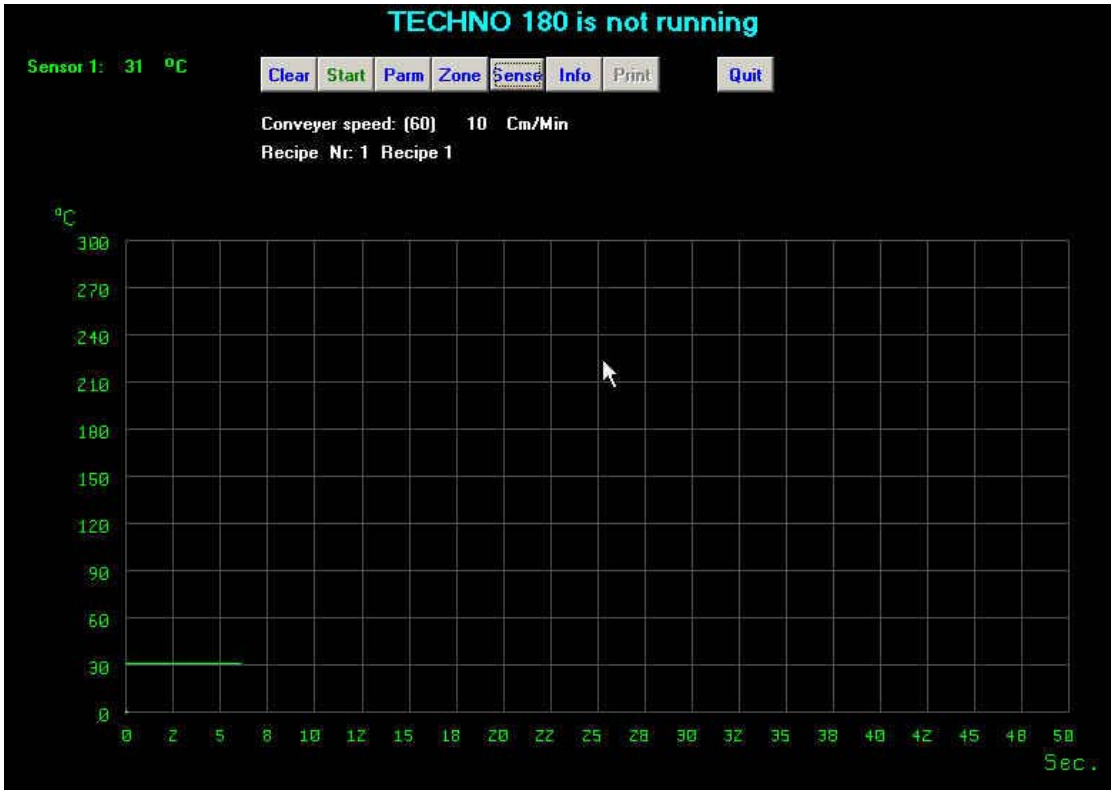
On the right side of the diagram, you will note colored balls, they indicate the requested temperature as well. The colored lines in the diagram indicate the current temperature of the zones. If the colored lines reach the right side of the diagram the will be shifted to the left.

The name of the recipe is displayed and the (requested) current speed of the conveyer.

4.11 The Sense button

The sense button shows the sense diagram.

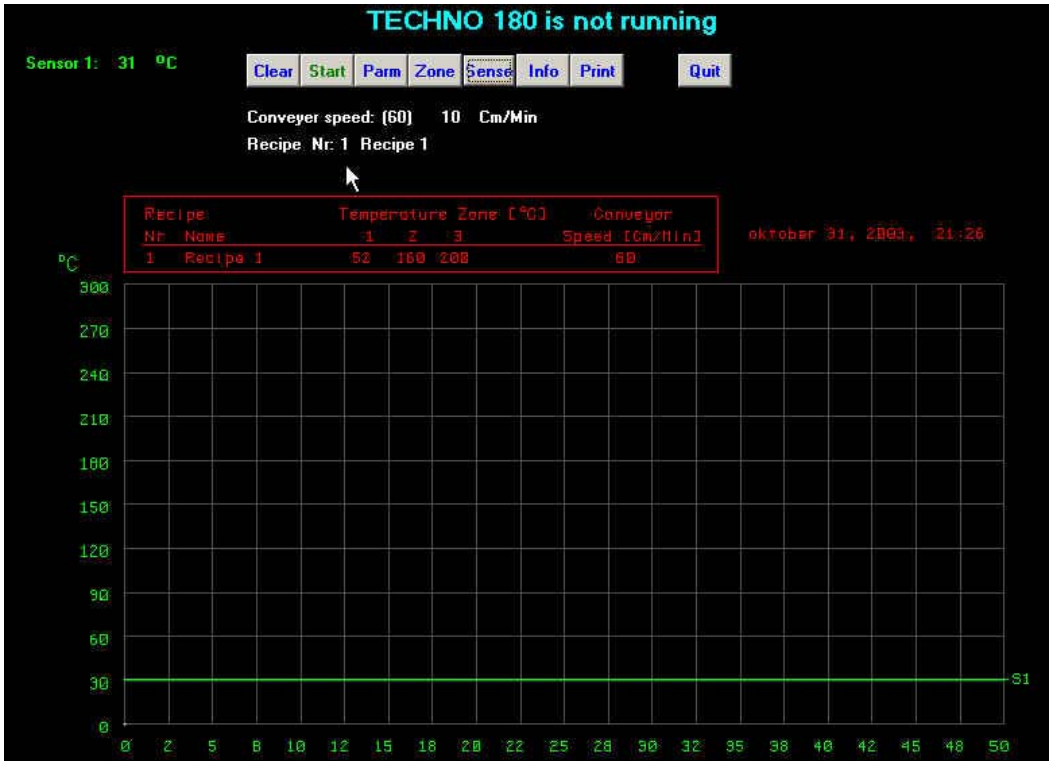
The next screen will appear:



Note that there is now, a sensor displayed on the top left of the screen. Also the diagram has been changed. The temperature axis is the same only the time axis is now different. This axis shows you the time that is needed for a PCB to pass through the oven. It is calculated from the conveyer speed and the length of the oven chamber. In this case it means that it will take 70 seconds for a PCB to pass all the zones in the oven.

To measure the temperature on a certain point of your PCB, stick the sensor on this point and place the PCB on the conveyerbelts. To get an accurate measure please hit the clear button as soon as the PCB enters the oven.

You will see the temperature on the PCB indicated in the diagram, let it run until the PCB exits the oven. The measuring will stop automaticly and wil show you the results.
See the next page.



Now you may select the Print button to get a hardcopy of this screen and the used recipe.
Press the Zone button again to enter the main screen.

4.12 The Print button

With the Print button you can make a hardcopy of your screen.
Please note that a printer must be predefined by your Windows software, see your Windows user manual of how to define a printer.

4.13 The Quit button

The quit button will exit the program.

4.14 Storing and retrieving recipies

Please note that there are no save or load buttons for the recipies, this program handles all parameter savings/loading automaticly.